

Application Serial No. 10/589,522
Reply to office action of August 17, 2009

PATENT
Docket: CU-5003

REMARKS/ARGUMENTS

Reconsideration is respectfully requested.

Claims 1-23 are pending before this response. By the present response, claims 1, 6, and 9 are amended (for grammatical reasons only). No new matter has been added. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the remarks contained herein.

At the outset, the applicants respectfully submit that absolutely no new matter has been added by the amendments to claims 1, 6, and 9, as these amendments are limited strictly to addressing grammatical errors. Specifically, in claim 1, "a first and second switch" has been amended to recite --a first switch and a second switch-- for consistency and ease of understanding, and claims 6 and 9 have been amended to correct the usage of "the" and "a." As such, absolutely no new matter has been added.

Claims 13-20 have been indicated as allowable, the applicants thank the examiner for this indication of allowance.

Response to Claim Rejections -35 USC § 102

In the office action (page 3), Claims 1-12 and 21-23 are rejected under 35 USC 102(e) as being unpatentable by Waverka (US 7,356,258). The et al. suffix is omitted in a reference name.

The rejection has been respectfully traversed.

(1) Waverka does not disclose the "a connection switching device for implementing Optical Channel Shared Protection Ring (Och-SPRing)" of claim 1.

Waverka is directed to an apparatus for diversely routing optical wavelengths to provide uninterrupted communications across a point-to-point sub-network optically linking DWDM rings (Waverka, col.2, lines 39-42). As can be seen from col.2, lines 47-62 of Waverka, "an optical network for optical communications comprises a first optical ring...a second optical ring...a point-to-point sub-network having at least first, second,

Application Serial No. 10/589,522
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third and fourth optical fibers optically coupling the first and the second optical rings". As such, it is clear that Waverka is to provide protection path for protecting communications between DWDM rings (Waverka, col.8, lines 41-43).

However, claim 1 of the present application is to provide a connection switching device for implementing Och-SPRing. It is common knowledge for those skilled in the art that the Och-SPRing is for protecting communications in one ring. However, Waverka is directed to an apparatus for protecting communications between DWDM rings. Accordingly, Waverka teaches away from claim 1 of the present application.

In addition, as described in page 2, last paragraph in the background of the present application, "an Optical Channel Shared Protection Ring (Och-SPRing), which can be described as follows: a same bi-directional service connection is born by a same pair of optical signals with wavelengths of λ_1 and λ_2 on different segments of a topological ring. The pair of the optical signals λ_1 and λ_2 are transmitted in two different optical fibers. Their wavelengths are taken as working wavelengths. In addition, another corresponding pair of wavelengths λ_2 and λ_1 in the two optical fibers is taken as protection wavelengths for the working wavelengths λ_1 and λ_2 ". That is to say, there is only one pair of wavelengths λ_1 and λ_2 in the Och-SPRing.

In Waverka, however, multiple pairs of wavelengths are involved. Refer to col.10, lines 14-17 of Waverka, "OADM 230 includes first and second input ports 310 and 315 for accepting light having first and second pluralities of optical wavelengths, respectively, say $\lambda_1 \dots \lambda_m$ and $\lambda_1' \dots \lambda_m'$ ". That is to say, the first plurality of optical wavelengths at least includes λ_1 and λ_2 . And the second plurality of optical wavelengths includes at least λ_1' and λ_2' . As such, at least two pairs of wavelengths λ_1 , λ_2 and λ_1' , λ_2' are involved in Waverka.

Therefore, the feature "a connection switching device for implementing Optical Channel Shared Protection Ring (Och-SPRing)" of claim 1 is not disclosed by Waverka.

(2) The Examiner asserts that Waverka describes in FIG.3A, col.10, lines 14-15

Application Serial No. 10/589,522
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and 38-41 that the optical can have one or multiple input port connected to one or multiple output ports, which reveals the feature "a first and a second switch, each of which has two unidirectional input ports and one unidirectional output port".

In response, applicant respectfully disagrees.

FIG.3A shows a schematic of the OADM 230. Refer to FIG.2C and col.8, lines 52-63 of Waverka, "optical wavelengths routed along protection path 280 are a copy of the optical wavelengths received by OADM 230 from optical fiber 220; OADM 230 splits the optical wavelengths, routes one copy along path 270 and routes another copy along path 280; the copy of optical wavelengths route along path 280 is routed from OADM 230 to OADM 234, and is further routed across optical fiber 256a to OADM 236, which further routes the copy of optical wavelengths onto optical fiber 226, restoring optical communication across the sub-network (i.e., providing protection for the sub-network)".

In view of the above description, it is apparent that the OADM 230 shown in FIG.3A of Waverka is used for providing protection between DWDM rings 210 and 215.

As has been discussed above, claim 1 of the present application is used for protecting communications in **one ring**. Therefore, Waverka does not disclose the first and second switches of claim 1 of the present application.

(3) the Examiner asserts that Waverka describes in col.10, lines 3-6 that the devices can be used for adding or dropping of signal channels therefore one device could be used for adding and the other could be for dropping channels, which reveals the feature "the output port of the first switch connects and outputs the downlink service signals to a local drop path" of claim 1.

In response, applicant respectfully disagrees.

Refer to col.10, lines 5-6 of Waverka, "for simplicity the add ports and drop ports associated with each OADM are not shown in FIGS. 2A-2E". Since Waverka does not show the add ports and drops ports, it is inappropriate to say that the features "the

Application Serial No. 10/589,522
Reply to office action of August 17, 2009

PATENT
Docket: CU-5003

output port of the first switch connects and outputs the downlink service signals to a local drop path" of claim 1 is disclosed by Waverka.

Therefore, feature "the output port of the first switch connects and outputs the downlink service signals to a local drop path" of claim 1 defines over what is disclosed by Waverka.

As similarly discussed above, the applicants respectfully submit that Waverka also does not disclose the features "one input port of the second switch connects to and receives uplink service signals from a local add path, the other input port of the second switch connects to and receives the downlink service signals from the downlink direction of the backup path and the output port of the second switch connects to an uplink direction of the backup path; and the local add path is connected with an uplink direction of the working path at the same time" of claim 1.

In view of the above, it is submitted that claim 1 is not anticipated by Waverka for at least the foregoing reasons. Accordingly, withdrawal of the rejection of claim 1 under 35 USC 102(e) is respectfully requested.

Claims 2-4 are dependent from claim 1 and withdrawal of the rejections of claims 2-4 are also respectfully requested at least since these claims depend from claim 1.

Claims 5, 9 and 21 are independent apparatus and method claims having corresponding features of claim 1. It is submitted that claims 5, 9 and 21 are not anticipated by Waverka for at least the same reasons as claim 1. Therefore, withdrawal of the rejections of claims 5, 9 and 21, together with their respective dependent claims 6-8, 10-12 and 22-23 are also respectfully requested.

Conclusion

The applicants respectfully note that the examiner's choice of reply in response to this paper is limited to one of the following three, because the applicants have not introduced any new grounds necessitating an additional search (i.e., the claims have only been amended to

Application Serial No. 10/589,522
Reply to office action of August 17, 2009

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address grammatical issues) in this response:

- (1) issuing a Notice of Allowance;
- (2) issuing a non-final office action citing a new reference; and
- (3) issuing an advisory action entering claims for purpose of appeal.

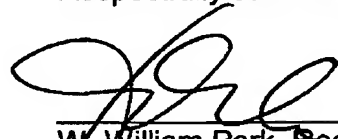
The applicants respectfully request issuance of a Notice of Allowance in the next action in view of the detailed reasons above, or issuance of a non-final office action citing a new reference, because Waverka does not teach claim 1 of the present invention, as described above.

For the reasons set forth above, the applicant respectfully submits that claims 1-23, pending in this application, are in condition for allowance over the cited reference. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the outstanding rejections and earnestly solicits an indication of allowable subject matter.

This amendment is considered to be responsive to all points raised in the office action. Should the examiner have any remaining questions or concerns, the examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,

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